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EXPERT EVIDENCE ON GLANDERS.

In a newspaper report of a case in which a prosecution was instituted for not notifying the existence of glanders some difference of opinion was expressed as to the time requisite for the development of clinical signs of disease. For the defence gentlemen were called who "were of opinion that it was possible for a horse suddenly to develop outward symptoms of acute glanders after suffering for some months from chronic glanders." This opinion is in the abstract probably correct. There must be a starting point for a symptom, and its earliest appearance must necessarily be preceded by a condition in which it was not apparent. Some clear definition of terms is necessary before this opinion can be properly understood. First, What is a symptom of glanders? If we answer—A small white nodule in the nasal membrane—there can be no doubt that such may appear on a place which showed no nodule two or three hours earlier. But this leads to another question—What is meant by "suddenly"? We should say that suddenly is descriptive of something which occurs in a fraction of a second. Now no symptom of glanders develops in so short a time as that. Every lesion requires some time for its development so we conclude that the word "suddenly" is used in a comparative sense.

We believe that the symptoms seen by the veterinary inspector in this case included a nasal discharge and ulceration, also an enlarged submaxillary gland. We have heard that not one horse but three presented these symptoms.

If these are facts the opinion expressed by the experts can have had no direct reference to the cases under consideration, but must have been given in answer to some abstract question put by a lawyer.

The difficulty is that the condition of the horses when seen by the inspector was not seen by the experts, and that answers to abstract questions do not cover the real question to be decided by the Judge.

What *might* happen in one case out of a thousand is not very helpful when applied to the average, and this is just where expert evidence is often apparently contradictory but really not so. An opinion may be sound and well founded on a question put by a lawyer who does not see the whole case, but it may mislead the Judge. It would be wrong to say that both lawyer and witness sometimes mutually appreciate the subtlety of both question and answer.

OXYGEN GAS IN THE TREATMENT OF MILK FEVER.

By HENRY TAYLOR, M.R.C.V.S., Haywards Heath, Sussex.

As far as I am aware there are no published records by British veterinary surgeons of the use of oxygen gas in the treatment of milk fever. I am therefore reporting the following few cases because its use has been attended by such a large measure of success.

I trust that in writing of such a hackneyed subject as milk fever I may not be accused of *scribendi cacoëthes*. My justification being the *rapidity* of the effect.

All the cases except one were treated by Potassium iodide *plus* oxygen. I have only tried one case in which the oxygen gas was injected alone into the gland, but the result was not nearly so encouraging as when the potassium iodide solution *plus* oxygen was used.

The following was the procedure adopted:—The udder was milked dry, two drachms of potassium iodide dissolved in approximately a pint and a half of water which had been boiled and cooled down to blood heat, were then injected into the gland, one-fourth part into each teat. The oxygen gas was next pumped into each teat until the udder felt very tense, and when the teat syphon was withdrawn the gas escaped with a hissing noise. To prevent this escape a string was tied round the end of the teat and the ligature was ordered to be taken off in an hour's time. The udder was well kneaded in a brisk manner, each hand grasping a teat meanwhile, the idea being to dissipate the potassium iodide solution and oxygen gas into the small alveoli of the gland. I think the massaging is a very important point, and I order it to be repeated every hour. Finally each cow received a hypodermic injection of Strychnine, the dose being ·3 of a grain, and the region of the spine was stimulated by liniment.

Of course the usual other items in the treatment of a case of milk fever were attended to.

In several of the cases improvement was noticed in as short a time as 15 or 20 minutes, the cow previously comatose raising her head, though it still swayed about.

The instrument I use for the oxygen is Willows' and Co's., only to facilitate the injection of the gas I have attached to mine an ordinary rubber enema syringe, so that the gas is simply pumped in from the bag.

The following are the records of my nine consecutive cases. All recovered, and the longest time

Case No.	Severity of disease	Animal up in.	Remarks.
1	Nearly comatose	45 mins.	An ordinary case.
2	Not comatose	5 ,,	Animal assumed the characteristic position, but was not comatose.
3	Comatose	6 hours	A bad case.
4	Slight	3½ ,,	Animal at the "silly" stage.
5	Comatose	7¼ ,,	Very bad case, had to puncture rumen.
6	Not quite comatose	3¼ ,,	Rumen full of green grass, otherwise an ordinary case.
7	Nearly comatose	1¾ ,,	Animal stretched at full length, with distended rumen; chewing cud in quarter of an hour after the injection,
8	Comatose	5½ ,,	Animal at full length with distended rumen. This is the only case in which I gave a second injection of oxygen although only 5½ hours had elapsed, but she got up immediately I had finished the second injection: a bad case.
9	Comatose	5¼ ,,	Animal stretched at full length, distinct improvement in 20 minutes, and head held up.

which elapsed from the injection to the cow getting on her feet again was 7¼ hours, the shortest 5 minutes.

All the cows except Nos. 4 and 6 were Jerseys.

The single case in which I used the oxygen gas alone was not up in 16 hours, though she had been observed to be chewing her cud at the expiration of three hours from the time of the injection. At the end of the 16 hours I gave her the potassium iodide, and in 15½ hours more she got up. I should mention that this animal received whiskey in addition to the above, All the rest had nothing given by the mouth until they were up. In no case was there any udder trouble.

It will not do to dogmatise on such a paucity of cases, but the results have been so encouraging that I shall continue to use this method.

I previously used the potassium iodide *plus* air, and the Chinosol *plus* air methods, but the above is much superior.

INTUSSUSCEPTION IN THE HORSE.

On July 22nd I was requested to attend an aged grey gelding, the property of a merchant at Stowmarket.

The history was that this horse had been overdriven, about a fortnight previous to my visit, and that since then he had been continually purging, in spite of the fact that the master had given three diarrhœa powders, and had rested him. It is needless to say that when I first saw him he was in very poor condition, although even then his appetite was fairly good, there was great thirst, but temperature and pulse were normal. The peristaltic action of the intestines was greatly increased, in fact they were always rumbling, and the diarrhœa was constant, although there was no signs of dysentery.

I considered the case to be one of diarrhœa following some bowel affection, and as it had continued for so long a time my prognosis was unfavourable.

Treatment consisted of astringents followed up with Iron and Nux vomica together with a scanty supply of drink, but in spite of this the diarrhœa did not abate.

On July 28th he refused food, and with the owner's sanction I had him destroyed.

On post-mortem examination I was unable to find the point of the cæcum, in fact the knackerman said "he hadn't one," but after a more careful examination I found it inverted into its own body for the distance of nearly one foot: this inverted portion was intensely inflamed, although the peritoneal coat was not involved. Apart from this localized mischief the remaining organs were healthy.

What seems to me to be peculiar about this case is the absence of the ordinary symptoms of pain, and the length of time that the animal would have lived had not I had him destroyed.

James R. Godbold, M.R.C.V.S.
Stowmarket.

A REVIEW ON COW-POX VIRUS.

By "Scrutator."

We were taught in our early days of scientific education that any conclusion drawn from practical observation should be controlled by experiment and verified by repeated experiments and observations; and that unless that drawn from practice did not fit in with that derived from experiment it should be treated as *sub judice*.

However, we should not discard the observations derived from practice, especially that of curative and preventive medicine because we know that from time immemorial, practical or empirical knowledge has been—and will generally be—in advance of science. Again, we ought not always ignore preconceived ideas or imaginings until we have put them to the test and found them unworkable.

It is generally admitted that human variola or small-pox is a highly infectious and very fatal disease, which can be prevented by using the virus of bovine variola or cow-pox, a disease that is not infectious but only conveyed by inoculation on an abrased cutaneous surface or, at the most, on a mucous membrane.

As to the origin of this latter disease opinions differ, one set of observers saying the virus is of bovine or equine origin only; another set, diametrically opposing it by stating it is of human origin but modified in the animal species by a series of transmissions; in short, human variola and bovine or equine variola are of the same source.

If the origin of vaccinia be the same as of small-pox, how is it that the former immunises against the

latter, and after a large series of transmissions—as in the arm to arm vaccination of children in days gone by—the disease was not reproduced in its original type?

We are told by those who believe in the unity of origin of these two diseases that the small-pox virus inserted on an abrasion of the calf's skin does not produce much effect, but the slight transudation resulting therefrom if inoculated on another calf and afterwards a series of calves the effect becomes more and more palpable, until a pustule forms that cannot be distinguished from a pustule of cow-pox.

One would naturally conclude that a virus practically *nil* in effects at first for another species should, once it had engrafted itself and become virulent for its new host, be very virulent for its original host; and, moreover, instead of being conveyed by inoculation only should also be highly infectious.

It is just forty years since Chauveau (who is still with us, active and well), demonstrated with cow-pox virus that the active element of virulent diseases was particulate, and not a gas or fluid, and did not pass through the porcelain filter; at least, the filtrate did not reproduce the disease. Nocard declared that nothing is known of the nature of cow-pox virus beyond what Chauveau demonstrated in his classical experiments of 1865-8. Others differ from this opinion. Probably the cause of the divergence of views is due to the various methods used to arrive at an exact solution of the question.

MM. Remlinger and Osman Nouri used 2 grammes of fresh vaccinal pulp finely incorporated with 50 grammes of sterile water. This emulsion was filtered by aspiration through a new Berkefeld V. filter, which, before using, was sterilised in an autoclave. The filtrate, which remained colourless and sterile in the incubator, was immediately inoculated into a rabbit and guinea-pig by friction on the shaved but unbroken skin. After four or five hours, they observed a pustular eruption resembling absolutely that encountered with ordinary pulp, save that, with the filtrate, the period of incubation was two days longer, which seemed to be due to the small number of germs which would pass through the filter. The eruption was that of vaccinia, because the animals were afterwards inoculated with a very active virus and remained immune to it.

On the other hand, M. Rouget concludes from his experiments that although the vaccine virus may pass through the V. and W. Berkefeld filters it is not a constant occurrence. In the successful cases, the active elements pass through only with difficulty and sparsity, because to obtain positive results it is necessary to inject large quantities, even as much as 40 cc. of the fluid into the heifer, which seems highly susceptible. In all probability the divergence of results is due to difference in degree of the porosity of the filters used.

It is claimed—and, it must be admitted, justifiably—that there is no other civilised country so free from contagious diseases of animals as Ireland. Since 1878, when the Irish veterinary service was reorganised, several diseases have been extirpated; and there are reasonable grounds for hoping that, at no distant date, it will be possible to add swine fever to the list.—*Times.*

ABSTRACTS FROM FOREIGN JOURNALS.

Milk Control in Austria.

(Continued from p. 70.)

Hamburgh Corporation undertakes the control of cows and milk supplied to the city, and the control is a purely veterinary one.

The milk sold in the city must have a fat percentage of 2·7 per cent., the Corporation wanted a 3 per cent. standard, but found it would be unjust to insist on that, as some lands will not feed up to it.

A company called "The Healthy Milk Co." supplies a large part of the City, it has 13 branches and keeps 1280 cows; it spends between £200 and £300 a year on veterinary control and tuberculinisation. It receives a subsidy from the Corporation, and their medical and veterinary officers of health superintend the Company.

The Corporation put aside an annual sum of £200 for the inspection of cows (veterinary) and another £100 for that of the H.M. Co. They also allow £400 for the inspection of cows in outlying districts which supply the city, and a like sum to establish a "Milkeries" exhibition for public instruction.—*La Clin. Vét.*

Strange Case of Prolapse.

The goat was due to kid for the second time, when the owner found her lying with a strange huge mass protruding from the rectum. Dr. Stefano, V.S., found this huge fluctuating mass covered with omentum and very discoloured. There was no prolapse of the uterus, and the owner by his misguided attempts at surgery had brought the animal to extremities.

Post-mortem showed a laceration 10 cm. long along the upper side of the left uterine horn, extending to the neck of the uterus, and through it the rumen had come in its entirety. The right horn was normal and contained a kid.

How the prolapse had occurred it was difficult to imagine, as there were some 12 litres of semi-liquid in the organ and the rupture was probably the result of a combination of labour pains and gastric tympany.—*La Clin. Vét.*

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THE LYMPHATIC SYSTEM OF BOVINES, WITH AN ACCOUNT OF LOCAL AND GENERAL TUBERCULOSIS.

By Alfred Holburn, M.R.C.V.S.,
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The lymphatic system includes the lymphatic and lacteal vessels and the glands through which their contents pass.

Lymphatic Vessels.

The lymphatic vessels may be said to be found in all the textures and organs which receive blood. It is, however, with the connective tissue of the several textures and organs that they are most intimately associated.

Two modes of origin are described, viz.: (1) The plexiform; (2) the lacunar. The term "plexiform" is applied when the lymphatic capillaries commence in the form of a network, and "lacunar" when the capillaries arise out of the connective-tissue spaces, or, using the words of Dr. Klein, a lymphatic vessel loses itself in a labyrinth of spaces. The latter method is described as the most common, and the connective-tissue spaces are accounted for in this way. The fluid part of the blood is being constantly filtered through the walls of the blood capillaries. The liquid is poured into the numerous lymph spaces, which abundantly traverse the majority of the tissues in such quantities as to bathe the tissues, and to supply sufficient nourishment for their support, after which it is removed by the lymphatics, so that in health no accumulation takes place. Hence the lymphatic vessels are a means of collecting the exuded blood-plasma (lymph), and returning that part which is not absorbed by the tissues into the blood-stream again. The lymphatic vessels of the intestinal canal are called lacteals, because of the milky appearance of the fluid contained within them during digestion, and they originate within the intestinal villi as a blind dilated extremity; otherwise they resemble the other lymphatics. The lymphatic capilliaries unite to form larger vessels, which discharge their contents into the various lymphatic glands. After traversing one or more of these glands the lymph is then poured into the large lymphatic trunks—the thoracic duct or right lymphatic vein—which empty themselves into the venous circulation.

Lymph.

Lymph under ordinary circumstances is a clear yellowish-coloured fluid of low specific gravity, and may be looked upon as dilated blood-plasma—that is to say, it contains all the constituents of liquor sanguinis, but in proportionally different quantity, the difference chiefly being that there is less albumin and relatively more water. Lymph, therefore, is the result of a normal and constant passing out of part of the blood-plasma from the small arteries and capillaries into the connective-tissue spaces of the body—transudation—which after the tissues have taken up their requirements is carried away by the lymphatics, bearing the character of weak or watered blood-plasma.

It is regarded by some investigators that lymph is not a simple product of transudation from blood-plasma under the influence of blood-pressure, but that it is a product of the elaboration of the tissues, and that its formation is in direct correspondence with the vital activity of the tissues.

It is possible, however, that both factors play a part in its formation; this much at any rate appears proved:

(*a*) That lymph contains excrementitious matter thrown off in the metabolism of the tissues.

(*b*) That changes in the character of lymph correspond very closely with changes in the character of the blood.

It is chiefly on account of the latter fact that we get the alterations brought about in the lymphatic glands so well marked in inflammatory and bacterial diseases, such as anthrax.

The Lymphatic Glands.

The lymphatic glands, also called "lymphatic ganglia," are solid, more or less rounded or elongated bodies situated on the course of the lymphatic and lacteal vessels which are found alongside the principal blood-vessels of the body. In size they vary greatly, their dimensions varying from a grain of wheat to several inches in length (some of the mesenterics). They are of a grayish appearance, and generally present on one side a slight depression—the hilum—through which the blood-vessels enter and leave their interior. The efferent lymphatic vessels also leave at this point, while the lymphatic vessels which carry the lymph to the gland—afferent vessels—enter the organ at different parts of the periphery.

On section of one of the large lymphatic glands one can recognise a cortical and medullary portion. On the cortex the structure is most marked. The glandular tissue within the trabeculæ occurs as a tolerably firm pulp giving rise to small rounded bodies or massses which are known as the cortical nodules or follicles. These little nodules are more easily seen when the glands are swollen. Many of the lymphatic glands of the ox are pigmented, which give the gland a mottled appearance. This condition is beautifully seen in the gastric, mesenteric, hepatic, renal, and to a less extent in the bronchial and mediastinal glands.

Functions of the Lymphatic Glands.

It is highly probable that the functions of the lymphatic glands have not yet been fully determined. We may, however, briefly allude to what has been ascribed to them.

The lymph glands are said to be the manufacturers of three or four kinds of cells, which vary somewhat in character and size. The largest of these lymph corpuscles (leucocytes) are believed to agree in their character with the white blood corpuscles, and since the lymph after traversing the gland is poured into the blood-stream, the lymph corpuscles are looked upon as constantly furnishing a fresh supply of white cells to that fluid Dr. Hamilton says that the lymph glands are not only mainly responsible for the leucocytes, but that these in turn are converted into the coloured corpuscles, and that those white cells which do not become so transformed subserve many useful purposes, such as removing dead tissue and protecting the body against the invasion of micro-organisms. Hence a relation between the cell genesis in the lymphatic glands and the great science phagocytosis.

It is claimed also that the lymph glands, placed as they are on the course of the lymphatic vessels, have a certain filtering action upon the lymph stream. This function is borne out from pathological observations, of which tuberculosis may be cited as a good example. It is well known that in this disease the lymphatic glands act as barriers against its dissemination by arresting the bacilli which reach them through the lymph stream, from a point of infection.

The bronchial and mediastinal glands are the most common seat of tuberculosis in the chest; the mesenteric glands are the most common seat in the abdomen. Every experienced meat inspector knows that the bronchial glands are frequently typically diseased, and yet no evidence is capable of being found in the lungs. In such instances the lungs must have received a dose of tubercle bacilli, these, without exciting a tuberculous lesion, were taken up by the lymphatics (by the leucocytes) and carried to the first lymphatic glands, where they became arrested and established a diseased focus. In a similar manner the mesenterics became affected from the bowels: the bacilli, having found lodgment in the mucous membrane, are taken up by the leucocytes and carried by the lacteals to the mesenteric glands, without exciting disease in the mucous membrane of the bowel itself. We have therefore abundant testimony to the filtering action the glands exercise upon lymph stream.

I wish now to briefly allude to the dissemination of tuberculosis within the body, and what we have to

understand by the pathological significance of local and general tuberculosis.

Local Tuberculosis.

A meat inspector, in adjudicating upon a tuberculous carcase, has got to ascertain precisely the degree of tubercle present. To do this he must necessarily understand the course and distribution of the various channels by which the disease is spread—as from organ to organ, from organ to the carcase, and from one part of the carcase to another. Further, he must be familiar with the parts most commonly diseased, and how to recognise miliary tubercle. Thus, from the point of view of forensic medicine and meat inspection, there are three problems requiring definite solution :

1. A knowledge of the most common seats of tuberculosis within the body.
2. How the disease is spread within the body.
3. What is meant by the terms "local" and "general" tuberculosis.

From experience, we are able to say that the most common seat of tuberculosis is the lymphatic glands. The bronchial and mediastinal in the chest ; the mesenterics in the abdomen : and the pharyngeal in the head. (In the pig the tonsils, upper cervical, and submaxillary). No animal should be pronounced free from tuberculosis until these glands have been carefully examined, no matter how healthy the lungs, bowels, liver or serous membranes may be ; and especially is this called for in searching for evidence of tuberculosis after the tuberculin test. In other words, without a thorough examination of the lymphatic glands in tuberculosis, a post mortem examination is not honestly made, and is valueless.

The manner in which tuberculosis is spread within the body is now acknowledged to be chiefly by the lymphatic stream ; at any rate, for a considerable time after the date of infection. For this information we are indebted to the work of pathologists. Experimental inoculations on guinea-pigs have yielded much useful information on this point, as recorded by Delépine, Hamilton, Sims Woodhead, and others. I wish here, however, to specially mention an article by Prof. M'Fadyean on "The situation and Order of Development of the Lesions in Bovine Tuberculosis," published in the *Journal of Comparative Pathology and Therapeutics*, vol. xi., part iii. (Sept. 1898). This article is the outcome of a very extended series of investigations, and constitutes the basis upon which to study the morbid anatomy of tuberculosis. Its teaching ought to be familiar to all those engaged in the work of tuberculosis, and I am sure the medical world is indebted to Prof. M'Fadyean for its publication.

The information furnished in this article, which I take the liberty to quote freely, clearly shows that tuberculosis is in the first instance a local disease, and that from a given focus it is spread by way of the lymphatics in a local manner.

Discussing first the infection of the lungs and thoracic glands, we find as follows : When the inhaled bacilli find their way into the pulmonary alveoli, they may be carried into the rootlets of the lymphatics (by the agency of leucocytes), and thence be transported with the lymph stream until they are arrested in the bronchial or mediastinal glands. Apparently, this may happen before the inhaled bacillus has had time to multiply in the alveolus in which it first came to rest, and we may thus explain those cases in which the lungs are apparently free from disease, and the only discoverable lesions are a few tuberculous nodules in the bronchial or mediastinal lymphatic glands.

In many cases, however, the inhaled bacillus comes to rest in the alveolar cavity or alveolar wall, and begins to multiply. The tissue then reacts to the irritation thus set up and the evidence of this reaction is the development of a tubercle around the multiplying bacilli. This development may go on as a gradual direct invasion of the surrounding living tissue by the bacilli, and furnish seed for fresh centres of disease. New centres of disease are set up—

1. By discharging bacilli into a bronchial tube involved in the morbid process, to be conveyed to other tubes by coughing, and excite disease either in the mucous membrane or be aspirated into the air-cells at places remote from the primary lesions, and there set up fresh centres of disease.

2. The second way in which bacilli are transported from the primary centre of disease in the lungs is by way of the lymphatics. In this method the bacilli are taken up by the lymphatics from the periphery of the primary lesion, and, instead of going straight to the lymphatic gland, are stopped on the way by attacks of the animal cells, and when that occurs a tubercle is developed. Thus, around the primary lesion there may be found detached lesions along the course of the lymphatics.

The Pleura.—Most frequently the pleura becomes involved by direct extension from a lesion in the lung tissue or from a tuberculous bronchial or mediastinal gland, and when once a spot of tuberculous pleurisy is started it may be spread laterally by the lymphatic vessels of the membrane or by the mechanical dispersion of tubercle bacilli on its surface during respiratory movements. In this way the visceral layer may infect the parietal, and *vice versa*, and eventually almost the entire surface of the pleura may become involved. The disease is also apt to spread through the lymphatic vessels of the diaphragm from the pleura to the peritoneum.

The Intestines.—It is easy to account for tuberculosis of the intestines. The infection here is from bacilli taken in with the food or water, or by the deglutition of expectorate from extensively tuberculous lungs (auto-infection). The bacilli, finding lodgment in the mucous membrane, multiply and excite the formation of a tuberculous ulcer.

The Mesenteric Glands.—The most common seat of tuberculosis within the abdomen of the ox is the mesenteric glands. They owe their infection to bacilli brought to them from the intestine by way of the lacteals. In a large number of cases bacilli appear to be brought to them without exciting disease in the intestinal mucous membrane (as is the case with the bronchial glands in respiratory infection) ; hence the invasion of the body by the bacillus from this channel is very often arrested —for a time, at any rate—in the mesenteric lymphatic glands.

Peritoneum.—Prof. M'Fadyean's investigations show that peritoneal tuberculosis is probably always lymphatic in its origin, and should not be taken as an indication that the disease has got there through the blood-stream, as some authors have ascribed.

Infection may reach the peritoneum from three sources—namely, from a tuberculous ulcer in the bowels, a tuberculous mesenteric gland, or a tuberculous pleurisy, through the lymphatics of the diaphragm. Then, as in the case of the pleura, the disease is spread laterally by way of the lymphatic vessels of the peritoneum, and also by the dispersion of the bacilli on its free surface during the peristaltic movements of the stomachs and intestines : the visceral layer may thus infect the parietal, and *vice versâ*, so that the covering of the stomachs, spleen, bowels, and liver may all become involved.

It is interesting to note that from a tuberculous peritonitis the infection might be extended into the interior of such organs as the liver, spleen, kidneys, and udder, by way of the lymphatics. Such a method of infection appears to go against the generally accepted view of the lymphatic circulation. We can readily understand the udder extending disease to the supramammary lymphatic

glands, and from these to the deep inguinal and to the peritoneum: but it is not easy to understand disease being sent, as it were, in a backward direction from the peritoneum to the mammary lymphatic glands, and thence to the udder. This mode of infection has been termed by McFadyean "centrifugal," as distinguished from "centripetal," in which the infection spreads in the direction of the normal lymph stream—*i.e.*, from an intestinal ulcer to a mesenteric gland.

Centrifugal infection therefore would appear to mean that from a given point of disease the bacilli may be dispersed or carried by the lymphatics in any direction, like so many spokes leading from the axis of a wheel.

It will now be gathered that from the two chief portals by which the tubercle bacillus is capable of entering the system—viz., respiratory and alimentary tracks—the infection may spread into the organs and over the serous membranes to a considerable extent, and without involving the blood-stream. It appears to be on account of this slow invasion that cattle can harbour the disease to such an enormous extent without suffering appreciable inconvenience or showing any clinical symptoms of illness.

Butchers and veterinary surgeons know well that animals, apparently in perfect health alive, may on slaughter have great masses of tubercle within their body. This could not exist if the blood-stream was in a state of saturation with the tubercle bacilli; consequently, so long as the disease is spread within the body by way of the lymphatics—no matter to what extent—it is pathologically known as "local" tuberculosis. What, then, is generalized tuberculosis?

Generalized Tuberculosis.

True generalized tuberculosis is set up when the blood-stream becomes the medium for dispersing the bacilli throughout the body, and is recognised by the establishment of an abundant crop of minute miliary tubercles (grayish-yellow points of millet-seed size) scattered through the *substance* of the internal organs, most frequently observed, however, in the lungs, where they often resemble small sago grains—*acute miliary tuberculosis.*

The bacilli get into the blood in two ways: first, from a local diseased area eating its way through the walls of a vein, and thus pouring bacilli into the circulating blood; second, from a diseased lymphatic gland discharging bacilli into the large lymphatic vessels which empty themselves directly into the blood-stream.

I might here just mention that, while the lymphatic glands act as so many fortresses against the further invasion of the body, they may in time be overcome by the enemy. When this happens, the bacilli will have a clear passage into the large lymphatic vessels, and thence into the blood-stream.

Generalised tuberculosis therefore is really secondary to a local tuberculosis which has so extended its invasive process to cause the eruption of bacilli directly into a vein or a large lymphatic trunk, to be dispersed throughout the body in the circulating blood: indeed, it is, in precise language, a *tuberculous septicæmia*, and produces at once definite symptoms of illness, such as quick breathing, high temperature—in fact, general constitutional depression, with rapid loss of flesh, observable to anyone

It is interesting to note, however, that after the act of generalization has taken place (pouring of bacilli into the blood) it takes from two to three weeks before these miliary tubercles become visible, and until such a time has elapsed there will be nothing on post-mortem examination to indicate what has happened. The lymphatic glands of the body are even valueless as a diagnostic in generalized tuberculosis.

At this stage of the disease an examination prior to slaughter is most helpful. If you have a history of the sudden onset of more or less distressing symptoms—quick breathing, high temperature, rapid wasting, pulmonary emphysema, etc.—although you may fail to find definite miliary tubercles in the lungs, if you find large areas of local tuberculosis within the body sufficiently serious in char cter to have involved a vein or discharge bacilli into a lymphatic trunk, you have ample reason to suspect that a generalisation has taken place. It is also interesting to note that acute miliary tuberculosis often follows parturition in heavily-milked cows.

Professor M'Fadyean has stated very clearly it is obvious that a combination of areas of localized tuberculosis may amount to a very extensive invasion of the body, but without the intervention of the blood-current the bacilli cannot be carried into all the organs and tissues.

It is necessary to insist upon this point, for the term "general" or "generalized" is sometimes illegitimately applied to cases of tuberculosis in which the disease is merely widespread in consequence of the body having been invaded simultaneously by way of the lymphatics from several different starting-points, such as the lungs, the throat, and the intestines. From the above discussion we may summarise as follows:

1. You cannot have a generalized tuberculosis without the intervention of the blood-stream.

2. The lungs are the principal organs which arrest or filter the bacilli from the circulating blood, which give rise to the formation of an abundant crop of small tubercles like little pearly sago grains scattered throughout the spongy lung tissue—acute miliary tuberculosis.

3. Outside the lungs the other organs such as the kidneys, spleen and liver, may not show visible evidence; the kidneys more in particular, however, frequently do.

In the kidney miliary tubercle appears in the form of grayish-yellow points scattered on the surface and throughout the substance of the organ; they are not so numerous as in the case of the lungs, and it is sometimes necessary to make many sections of the organ in order to discover them.

The examination of the kidneys often affords unmistakable evidence of generaliz tion in surreptitiously slaughtered animals whose carcases may appear on the market minus all other internal organs.

Finally, I desire to say, however, that from a large abattoir experience I am perfectly in agreement with M'Fadyean in stating that, outside the lung, miliary tuberculosis is not always visible to the naked eye in the other internal organs, though the lungs themselves contain myriads of them.

The paper was accompanied by an interesting lantern demonstration for which the Section accorded Mr. Holburn a hearty vote of thanks.

Discussion.

Mr. Moody observed that the vexed question as to localized or generalized tuberculosis was one that gave trouble to everyone engaged in meat inspection. He had been with two or three veterinary surgeons and they had all differed as to what should and should not be condemned. One scarcely knew what to do, even with the regulations to assist one. The carcase might be seized, but if there was not a sufficient amount of support the case was lost. It was a very difficult matter indeed, but to some extent it had been simplified by the very lucid explanation of Mr. Holburn.

Prof. Wooldridge said there was one paragraph at the end of the paper he desired a little further information about, because if it was true he had been labouring under a misapprehension. Mr. Holburn stated that after generalisation had taken place it took from two to three weeks before the miliary tubercles became visible, and until such time had elapsed there would be

nothing on post-mortem examination to indicate what had happened. He desired to ask if it was quite correct, because he was under the impression it did not take so long for lesions to develop. Although they might not have caseous lesions they certainly would have lesions showing that the lungs had been infected by organisms, and there would be congestion, although there might not be miliary tuberculosis formed in a much less space of time than two or three weeks.

Mr. HOLBURN said a lesion was not established immediately. On the experiments laid down in the valuable work by Profe-sor M'Fadyean the bacilli had to come to rest, and it must take a little time before macroscopic evidence of that became visible. He was not aware of any congestion of the lungs in acute miliary tuberculosis of any value as diagnostic. He thought it would be otherwise. The development of miliary tubercle which appeared in the lungs very oft n, in the most early form, was not yellow or caseous, but more like a little pearl sago grain, a little translucent pin head body, and that could not develop in a night. Even when experimenting with a guinea-pig, no one would think of killing the guinea-pig within three weeks. Of course an examination by the microscope might show something rather earlier.

The remainder of the Section was taken up in discussing the terms of a resolution with regard to notifying to the authorities any case of sudden illness or accident necessitating the slaughter of an animal at any place other than a slaughterhouse.

On behalf of Dr. Wheatley the Chairman presented the following resolution: "That pending the adoption of a universal system of meat inspection, all cases of sudden illness or accident necessitating slaughter on any farm or premises other than slaughter-houses shall be notified to the proper authority."

The CHAIRMAN observed that he had not undertaken the resolution should be carried, but only that it should be brought to the notice of the meeting.

Mr. MOODY moved as an amendment: "That pending the adoption of a universal system of meat inspection all cases of sudden illness or accident necessitating slaughter of animals intended for the food of man on any farm or premises other than slaughter-houses should be notified to the proper authority."

Mr. E. LIONEL STROUD seconded the amendment.

On the motions being put 6 voted for the amendment and 4 for the original motion. The amendment being put as the substantive motion was lost.

Prof. WOOLDRIDGE then moved: "That in the interests of public health it is desirable that there should be compulsory notification of the slaughter of animals intended for human food at other than licensed slaughter-houses, and that all parts of the carcase, including the internal organs, should be retained for inspection after such notification."

Mr. GOOCH seconded the motion, which was carried by 16 to 1.

The PRESIDENT, in closing the meeting, expressed his thanks to the members of the Congress who had taken part in the discussion, and who had lent support by their presence. The work he thought really justified the action of the Council of the Royal Institute of Public Health in allowing the veterinary surgeons a Section to themselves.

A vote of thanks to the President for presiding and to the Secretaries, especially Mr. Percy S. Howard, and to the various readers of the papers, was proposed by Mr. Gooch, seconded by Mr. Wilson, and unanimously carried.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A meeting was held by invitation of the President, Mr. H. Peele, in the city of Durham, on Friday, 2nd June. Previously Prof. Hobday operated on two cryptorchid colts in the Waterloo Hotel Yard, Old Elvet. The first subject was a chestnut, two years old, (half-bred), one testicle of large size being in the scrotum, the other was not capable of being handled. After the horse was cast, chloroform was administered and the parts to be operated on were rendered aseptic. An incision was then made and the scrotum opened on the side where nothing could be felt, and the testicle was found lying in the inguinal canal quite close to the belly. Its removal was effected by the ecraseur, and the opening sutured. The other testicle was subsequently removed by the same instrument. The other was a four-year-old carting colt from which one testicle had been removed previously. Nothing could be felt in this colt either. A scar having been found on the side where the previous operation had been performed, an incision was made on the other side of the scrotum and the hand introduced, the testicle was found in the abdominal cavity. It was somewhat flabby and soft, and revealed on subsequent examination the presence of a worm in its centre, which was very interesting from a pathological point of view.

There was a good attendance, several members of the North of England Veterinary Medical Association having accepted the Pre-ident's invitation to be present, and included the following: J. H. Taylor, C. Hill, W. N. Dobbing, Darlinton; A. C. Forbes, P. Snaith, Bishop Auckland; W. H. Blackburn, Barnard Castle; Geo. R. Dudgeon, Geo. M. Mitchell, Sunderland; H. Rider, Beamish; J. Aitken, Chester-le-Street; E. R. Gibson, Seaham Harbour; W. Hunter, Hunter, Junr., J. Davidson, Newcastle-on-Tyne; C. S. Hunting, South Hetton, Pickering, Hexham; Rankin, Durham; Prof. Hobday, London; The Mayor of Durham (Geo. H. Proctor, Esq.) Mr. Peele, Durham, and W. Awde, Stockton-on-Tees.

The meeting was subsequently held in the Council Chamber which had been placed at the disposal of the Association by the Mayor, who also provided liquid refreshments for those who wished to have them.

Mr. H. PEELE, in taking the Chair, congratulated the Association on its assembling in the Council Chamber of the City of Durham, and he was indeed much obliged to the Mayor for having placed that room at their disposal. He thought possibly the Association might do itself some good if it held its meetings in different places instead of always in the same town, He thought such a course might be tried, at any rate. He was also glad to see so many present, and hoped they would enjoy themselves.

ELECTION OF OFFICERS.

President, Mr. Geo. R. Dudgeon, Sunderland,

Vice-Presidents, Mr. A. C. Forbes, Bishop Auckland, Mr. H. Peele, Durham,

Secretary and Treasurer, Mr. W. Awde, Stockton-on-Tees,

Auditors, Mr. W. N. Dobbing, Darlington, Mr. J. H. Taylor, Darlington.

Mr. W. HUNTER (President of the North of England Veterinary Medical Association) mentioned that arrangements had been made with Dr. Murray, of Newcastle-on-Tyne, to deliver a course of lectures (quarterly) on Bacteriology, to which he invited the members of the South Durham and North Yorkshire Association, provided they paid the annual subscription of 10/6 to cover expenses in connection therewith.

Cryptorchid Operations in the Horse,

By Frederick Hobday, F.R.C.V.S., F.R.S.E.,

A few weeks ago your President very kindly asked me to give a clinical demonstration of the cryptorchid operation before your Association, and in his letter stated that he had a couple of suitable subjects which he hoped might prove typical cases; he also asked if I would give a short clinical paper bearing upon the same subject. I gladly assented, and I thought that I could not do better than summarise the clinical results of my first hundred consecutive cases, and occupy the rest of the time with a note upon the abnormalities so frequently met with. I have brought with me some photographs and specimens, three of which, shown by the kindness of Prof. Dewar, of Edinburgh, demonstrate the extremes of abnormality. Of each I propose to give a brief description in a few moments. The surgery of the cryptorchid gives some of the most fascinating operations which the veterinary surgeon is called upon to do, partly on account of the uncertainty of what one is going to find, and also because it necessitates so frequently an entrance into the abdomen and thus gives occasion of proving up to the hilt the benefits which have accrued to the animal world by the introduction of antiseptic methods.

No. of Case	Date	Breed	Age	Hidden Testicle	Situation of the missing Testicle	Other Testicle	Remarks
	1903						
77	Nov. 4	Cart	3 years	Left	Inguinal canal	Been removed	
78	Jan. 22	Hackney	4 years	Right	Abdomen	Been removed	Very short cord
79	March 30	Cart	4 years	Left	Inguinal canal	Scrotum	
80	April 11	Hackney	2 years	Both	Abdomen		
81	April 11	Pony	2 years	Right	Inguinal canal	Scrotum	
82	May 1	Cart	2 years	Both	Left in canal right in abdomen		
83	May 5	Carriage	6 years	Both	Inguinal canal		
84	May 16	Hackney	6 years	Both	Abdomen		
85	May 16	Hackney	6 years	Left	Abdomen	Been removed	
86	May 16	Cart	2 years	Right	Abdomen	Been removed	
87	June 12	Cart	3 years	Left	Abdomen	Been removed	
88	June 12	Cart	3 years	Right	Inguinal canal	Been removed	
89	June 13	Cart	2 years	Right	Abdomen	Been removed	
90	Sept. 8	Thoro'bred	2 years	Left	Abdomen	Scrotum	
91	Sept. 9	Cob	2 years	Left	Abdomen	Been removed	
92	Sept. 11	Hackney	4 years	Left	Abdomen	Been removed	Was badly ruptured
93	Sept. 23	Hackney	2 years	Right	Abdomen	Been removed	Intestine escaped 3 days later
94	Sept. 24	Thoro'bred	2 years	Left	Inguinal canal	Scrotum	
	1904.						
95	Jan. 15	Shire	3 years	Right	Abdomen	Scrotum	Very short cord
96	March	Cob	4 years	Right	Abdomen	Been removed	
97	June 14	Cart	2 years	Right	Abdomen	Been removed	Very short cord
98	June 15	Cart	3 years	Right	Abdomen	Been removed	
99	June 17	Hackney	2 years	Left	Abdomen	Scrotum	Very small
100	June 19	Hackney	3 years	Both	Abdomen		

Summarising these hundred consecutive cases* it will be seen that only five deaths occurred, three of the patients (cases 27, 35, and 50) being distinct freaks of nature. The fourth death resulted from septic peritonitis, and I am unable to definitely trace the source of infection. I think it must beyond a doubt have occurred from some other cause than the operation itself, as another animal operated upon with the same instrument a few minutes afterwards, but taken to a different farm to be looked after, never gave cause for the slightest anxiety, and the case (number 43) was that of a very simple inguinal rig and I did not have occasion to enter the abdomen. With the fifth (No. 93) the stitches were removed three days after operation and all seemed satisfactory, but the colt galloped off down a field, became lost in a fog, and when found two hours later the bowels were down. The animal was shot. I think you will agree that it speaks well for the use of antiseptics and surgical cleanliness that there was only one case out of the whole hundred in which death was due to peritonitis.

It is said that prevention is better than cure, and in nothing is this more true than in the practice of antiseptic surgery.

Results of this kind used to be attributed to good luck as much as anything else, and a man who was successful was said to be "lucky" with his cases. *There is no such thing as luck in antiseptic work*, and although we have very many difficulties as compared with the human surgeon to deal with in the treatment of our patients yet there is no excuse for a want of surgical cleanliness during, and at the performance of, a veterinary operation where the skin is unbroken, and one has not a suppurating place to commence with. A clean saucepan to boil the instruments, a clean pail or bowl, a nail brush, a razor, soap, and a towel are all that is absolutely necessary, and surely there is no place even in the uttermost wilds of a civilised country like England where these common necessaries of life cannot be obtained. In fact I will go so far as to say that where the life of a patient depends, as it does, upon cleanliness, if attention cannot be paid to this point the risk should not be incurred.

The cryptorchid operation is one which above all may be likened to the "Lucky bag competition" of a bazaar, for it is only when one has plunged one's hands into the interior that one is able to definitely say what one is going to pull out.

The most curious abnormalities are to be expected, and you have in the photographs and specimens which I have here a pretty good variety of all sorts and sizes.

* Details of 76 cases have already appeared in a little work which I published, "The Castration of Cryptorchid Horses," 1903, or in *The Veterinary Record*, Nov., 1902 and March, 1899, or in *The Journal of Comparative Pathology and Therapeutics*, volume XI.

Some contain teeth, some contain hair, whilst it is not uncommon to meet with the strongylus armatus (in these hundred this worm was met with twice, and one specimen is here to-day). Some will be of enormous size and some no larger than a hazelnut; some will be hard, others soft; the shapes, too, almost defy description so curious and quaint are they, whilst one must not forget that there may be (as shown in these two photographs) an entire absence of one or both organs.

Prof. Dewar's specimens, lent to me to-day, curiously enough demonstrate well the extremes of size; one is the largest I personally have ever seen, and another of the smallest. The very large one caused the death of a two-year-old Clydesdale colt through the spermatic cord becoming twisted round the bowel. The piece of cord which has been left by the knackers now measures more than twenty inches in length, so that its original length must have been greater. It contains bone and cartilage, and weighs 10 pounds six ounces; while one, also from a two-year-old Clydesdale, barely weighs half an ounce, and goes to the opposite extreme in size.

Either of these conditions is very puzzling unless one can draw the supposed testis into view, such a course would be quite impossible in the case of this enormous specimen and probably the only way of effecting a castration would be to break through the spermatic cord either with the nail or an instrument, or to withdraw the cord into the canal and get the ecraseur chain on it in that position, allowing the testicle to fall back into the abdomen. Such an operation has been performed with a satisfactory result.

The smaller testicles can be readily dealt with if they can be seen, but frequently they have such abnormally short cords that this is impossible and they must either be detached by traction or the ecraseur must be dipped down the inguinal canal so that the end of it enters the abdominal cavity.

Another of my own photographs shows this contrast in size very well, the scrotal testicle weighing 10 ounces and the abdominal one only 1 oz. 3 drs. A cystic condition is by no means rare, and the specimen, removed from a colt's abdomen last week by Mr. Bower, F.R.C.V.S., and myself, illustrates it well; I have especially kept it intact in order that we may open it here and examine the contents. The latter may be only fluid, but the organ may also be a true dermoid, or contain teeth, bone, cartilage and hair.

Photographs I have here, kindly lent by Professors Dewar and Williams, and Messrs. H. Thompson and John Steel typically illustrate one or other of these conditions.

The Strongylus Armatus specimen is well developed and the particularly interesting feature of this case was that the worm was distinctly in the substance of the testis; in fact it was not discovered or even suspected until the testicle was cut through. There were five of us present, all veterinary surgeons, when the incision was made and we are all agreed upon the fact.

The shapes and forms of some of these cryptorchid testicles almost defy description. I have two photographs here, one of Prof. Dewar's and two of my own, which are very characteristic Anyone, even an expert veterinary surgeon, might reasonably be excused if he failed to recognise testicles in any of these three specimens. This is, above all others, one of the abnormalities. for which the crytotorchid specialist must be on the look out.

Lastly, adhesions and things of that kind must not be forgotten, and above all we must not forget that animals exist with entire absence of one or both organs.

Twice it has been my lot to meet with such cases, confirmed beyond a doubt by post-mortem examination made by myself in company with another veterinary surgeon (these cases are two of the freaks above alluded to, cases 27 and 50) and in connection with this I ask you to look at these photographs. In sending me an account of this one Prof. Dewar draws attention to the abnormal size of the testis, which was abdominal, and also to the fact that it had, in the abdomen, distinct attachments to both inguinal regions, whilst a most careful search failed to discover any trace of another testicle.

Of the other two photographs one animal had a scrotal testicle several times larger than normal, whilst on the other side there is only a mere button like ending which could not by any means be construed into testicular shape.

The third photograph demonstrated that such an animal as an "anorchid" could exist. No vestige of testicle was present on either side; Prof. M'Fadyean confirmed this by microscopical examination, the extremities of the attenuated cords being like globular pieces of fat. I have the actual specimen for your inspection and you will see that, even for a thoroughbred, the penis, too, is very diminutive in size and ill-developed.

The last photographs are those of an hermaphrodite, and the cryptorchid operator occasionally comes across one of these curiosities of nature. This particular horse had two well developed testicles, one in each inguinal canal.

Another I had a few months ago with one in the perineal region, subcutaneously and only a short distance away from what looked like the vulva of a mare, and the other testicle in the abdomen. Hermaphrodites are distincts freaks, and one always expects when operating upon them that something interesting may turn up.

In conclusion, to return to a summary of the 100 consecutive cases, it is worth noting that in 46 instances it was the right testicle which was abnormally situated whilst in 38 the left was the offending organ; 16 had both concealed.

In 58 instances the organ was found in the abdomen and in two (cases 27 and 50) the testicle was entirely absent. In several instances I had a history of sexual connection having taken place, but in no single instance in which the testicle was truly abdominal (I mean without the presence of one in the scrotum or canal) have I been able to trace a fertile result.

Prof. M'Fadyean has kindly examined a large number of abdominal and inguinal testes, and in two cases of true abdominal ones discovered immature spermatozoa, but this of course does not necessarily imply power to procreate stock. I am particularly anxious to hear your opinions upon this point as well as upon any others you may think worthy of discussion.

Discussion.

Mr. Hill tendered his thanks to Professor Hobday for the operations he had shown them that day and also for the interesting paper he had read, and he had demonstrated what could be done with an anæsthetic and antiseptic surgery in opening the abdominal cavity of the horse. He thought the operation was hardly one that should be attempted by a novice but required a specialist after what had been said about the uncertainty of the conditions of the parts as illustrated by the Professor's experience.

Mr. W. Hunter said that he had tried the operation, and had done it many times with success; at others, without being successful. One thing which should be strongly insisted on was that the colt should be well hungered previous to the operation. He attributed one unsuccessful case to the omission of that precaution, and the sutures ought to be sufficiently close or the bowels might protrude. In another case he removed a cyst but could not convince the owner of the animal that this was all there was present, and in order to satisfy him had his hand in the abdomen.

Mr. Dudgeon acknowledged his indebtedness to Prof.

Hobday for his operations, but thought the operation ought only to be performed by a specialist and one who was well up in his anatomy. He would like to ask if the Professor had found that animals with testicles in abdomen were as mischievous as those having them in the inguinal canal. Scrotal hernia having been mentioned he thought it was more due to the mare than the sire. One mare that he knew had six foals—three colts all of which had scrotal hernia.

Mr. TAYLOR thanked Prof. Hobday, and said that he considered the chloroform muzzle used by him was a great improvement on the one belonging to the Association. He also agreed that the operation should only be performed by a specialist.

Prof. HOBDAY would like to know if heredity is a factor in the production of these cases—he had known certain mares whose progeny had such, and had known certain stallions that seemed to have them.

Mr. SNAITH had five or six colts in a certain district where they had only one testicle down, and at one particular farm he had nearly always to leave them till they were two years old before they could be operated on. He had operated on several in the inguinal canal, but had to deal with a considerable amount of hæmorrhage and thought the Professor's method of opening up the parts with the director was a great improvement on his own *modus operandi*.

Mr. AWDE thanked Professor Hobday for his operations and paper, and stated that he believed scrotal hernia distinctly hereditary.

Mr. RIDER thanked the essayist on behalf of himself and the other members of the North of England Association.

Mr. H. PEELE thanked the Professor for showing them three operations. He knew of one mare and every colt she had was affected with scrotal hernia.

Prof. HOBDAY replied. He thanked the members for the kind remarks made by them. Hæmorrhage was avoided by the use of the director as stated, as you could cut in any desired direction and avoid any large vessels, and he believed in tearing the parts asunder with the fingers. It was also absolutely essential to have the colts well starved before the operation. He also liked a blunt chain for the ecraseur, for there was less likelihood of hæmorrhage resulting. He believed that ruptures were congenital. In Japanese dogs certain breeds were certain to have it. The chloroform muzzle referred to it was simply Cox's Mask with an ear strap over the head, and cost from 7s. 6d. to 10s. 6d. Antiseptic surgery simply means cleanliness of the parts to be operated on, and the operator's hands and instruments. Unless anything untoward should occur he had little or no fear of the success of his operations.

Mr. SNAITH proposed a vote of thanks to the Mayor of Durham for his hospitality, and also for the use of the Council Chamber for the meeting. This was seconded by Mr. Dudgeon and carried unanimously. His Worship suitably responded.

The SECRETARY proposed a vote of thanks to Professor Hobday for his paper and for the interesting specimens, photos, etc., with which it was illustrated, and also to Professor Dewar for the loan of specimens in connection with the same subject. This was seconded by Mr. Forbes, and carried with acclamation. Prof. Hobday replied.

Mr. DUDGEON proposed a hearty vote of thanks to the President, seconded by Mr. Snaith, and carried.

The members adjourned to the Three Tuns Hotel, where tea was provided by the President. They then left by train for home, having thoroughly enjoyed themselves. Both colts made satisfactory progress, and left Durham for their respective homes a few days afterwards.

W. AWDE, *Hon. Sec.*

AUSTRALIAN REMOUNTS FOR INDIA.

Colonel Howard Goad, Director-General, Army Remount Department of India, who was recently in Australia purchasing horses for the Indian service, has forwarding to the N.S.W. Premier a copy of his report, which is as follows:—

"The Government of India, through the Director-General of Remounts, takes from two to three thousand horses for army purposes annually (last year four thousand) at £45 per head, landed and approved in India. The horses brought over for this purpose are nearly all unbroken.

These horses are mainly horse and field artillery class, with more or less cavalry from time to time. These artillery classes are the pick of the horses of that type bred in Australia, and, unfortunately, the class is decreasing rapidly.

I would not have bothered you with this subject were the matter not entering into an acute stage, but horses of the class required are now so scarce, that they realise prices at which our shippers will not be able to continue the trade, and I have this season had to import horses for army purposes from North America, Argentina, and Hungary, in order to see how these horses do in India, and thus be able to turn elsewhere at once for remounts should Australia fail us.

It would be a matter of the deepest regret should I have to do so, for, as we stand, I believe that no other army in the world is horsed as well as His Majesty's army in India is with our Australian horses, and I sincerely trust that the supply may continue. I have talked the matter over with Mr. Campbell, Director of Agriculture for New South Wales, and with Mr. Swinbourne, Minister for Agriculture in Victoria, and they both agree that some step should be taken immediately to mend matters. I trust, however, that the subject may receive your assistance, for whatever is done should be done quickly, or the trade will be lost to Australia.

As regards the decrease of the class of horse we require, this is in no way owing to the purchases of horses made for South Africa, Germany and Japan, as these horses were of a very different standard; so much so that when the War Office proposed, when returning British cavalry regiments to India (sent from India to South Africa ready horsed) to send them with the horses on which during the process of time they had been remounted in South Africa, this offer was, on my representation as to the inferior class of horse we should receive, refused by the Indian Government.

In addition to the Government trade, large numbers of superior horse are annually shipped from Australia for the private market in India.

The difficulty now experienced in obtaining the class of horse we require for the army in India is, I believe (and I have made very careful inquiry into the matter), mainly due to the facts—

(*a*) That many inferior stallions are being used.

(*b*) That owners have sold many of their best mares for export.

The remedy, if I may be allowed to offer an opinion, is:—

(1) A tax on all stallions, none being allowed to cover unless passed by a duly-qualified official appointed to inspect them.

(2) In Government providing really good stallions—thoroughbreds, Clydesdales, Suffolks, and Welsh ponies—for use by breeders at a nominal fee. This system obtains in all the great horse-breeding countries in Europe (I personally have had the advantage of visiting these countries for the Government of India, and studying the systems in force); or

(3) In giving premiums to private individuals (as is done on a very small scale in England), who will

stand approved stallions at a nominal fee for the use of breeders.

(4) Steps should be taken to prevent the best mares leaving the country.

With regard to (2) and (3), it may be thought that (2) might interfere with private enterprise; should this be so, then (3) would meet the case, should sufficient private owners be willing to take the matter up on the local Government calling for offers to do so; but I would strongly urge that whatever is done be done without delay. It must also be remembered that in either case the whole success of the matter depends on thoroughly suitable men being chosen to approve or buy stallions; and stallion-keepers should have sufficient experience to advise small breeders, who own two or three mares, which class of stallion to put to their mares.

Australia has a record second to no country in the world for breeding good horses of every class, and the trade with India in such horses brings a certain amount of money into the country (mainly to Victoria, New South Wales, and Queensland), for remounts alone this season £180,000 (£45 × 4,000) having been paid by my department for Australian horses. In addition to this, it must be remembered that a large amount of money, labour, etc., is employed for forage, grain, shipping, etc., for the large number of horses now exported from Australia, and it would be a million pities that this should go elsewhere.—Howard Goad, Colonel, Director-General, Army Remount Department, India, April 8th, 1905."—*Town and Country Journal* (Sydney).

GLANDERS—FAILURE TO NOTIFY.

There was an adjourned summons, at West London, against the Star Omnibus Company, New Kent Road, S.E., for failing to notify to the Local Authority the fact that there were glandered horses at the company's stables in Filmer Road, Fulham.

Mr. Freeman Barrett prosecuted on behalf of the London County Council, and Mr. Compton Smith defended.

It was alleged that fourteen horses were found to be suffering from glanders in these stables, and that a horse-keeper, named Nichols, died from acute glanders at St. George's Hospital, which he had contracted at the stables. In the course of the hearing it was stated by the prosecuting counsel that as many as ninety-five cases of glanders had broken out at the stables since 1903.

The defence was that the horses displayed no sign of glanders until May 18, the night before the visit of the Council's inspector, and that, as regards the horsekeeper, Nichols, he contracted the disease at another stable, where he did odd jobs.

Mr. J. F. Coleman, the veterinary surgeon to the company, said on May 13 and 15 there was no sign of glanders in the horses. On the night of the 18th enlargement of the glands was discerned in two of the animals, and notification was sent to Prof. Hobday, the Council's inspector. In his opinion the horses were suffering from chronic glanders—a condition in which there were no outward symptoms—which suddenly developed into acute glanders. In cross-examination, witness said the stables were in a good condition—as good as the run of stables.

Mr. Barrett asked witness if he had directed a horse at the Camberwell stables to be secretly slaughtered?

Witness: I can't say. It is the duty of the yard foreman to notify to the London County Council.

Mr. Plowden: I must really press you for an answer. Surely, in your capacity as an official of the company, you can say if you authorised the slaughtering of glandered horses without notifying the same to the authorities?

Witness: Not in the case of any horse that I considered distinctly glandered.

You didn't give any such order?—I can't go as far back as 1902—the date of my note to my former assistant.

You admit the note?—Yes; it is the duty of the company to notify.

Expert evidence was given by Mr. J. A. Dollar, F.R.C.V.S., ex-president of the college, Mr. Kirk, M.R.C.V.S., and Mr. Caton, F.R.C.V.S., all of whom were of opinion that it was possible for a horse suddenly to develop outward symptoms of acute glanders after suffering for some months from chronic glanders.

The magistrate reserved his decision.

GOATS AND MALTA FEVER.

It will be within recollection that some twelve months ago a Commission was appointed by the Admiralty, the War Office, and the Civil Government of Malta for the purpose of inquiring into the prevalence of Mediterranean or Malta fever among the naval and military forces and the general population of Malta. This Commission, it should be said, however, was established as the outcome of a letter addressed by Mr. Alfred Lyttleton, the Colonial Secretary, to the Royal Society, in which he drew attention to the heavy incidence of the fever, and invited that body to nominate an investigating committee. That course was adopted, and Colonel Bruce, C.B., R.A.M.C, who, by the way, discovered, in 1887, the particular micro-organism (micrococcus melitensis) of Malta fever, was appointed chairman. The members of the Commission have been engaged for some time past in pathological investigations of an extended character. A series, also, of epidemiological inquiries, were recently conducted in the Maltese islands by Dr. R. W. Johnstone, one of the medical inspectors of the Local Government Board. But these, though of high value in themselves, were not regarded as sufficiently conclusive to warrant a definite statement. Then attention was given to milk supplies. As is well known, the usual source of milk in Malta is the goat, flocks of the animals being driven about the streets, to be milked at customers' doors into any suitable vessel.

It is matter for considerable gratification that this promised investigation as regards the Maltese goats has yielded results of the utmost significance. Dr. Zammit and Major Horrocks have, in fact, determined experimentally that goats are susceptible to Malta fever; hence, they infer that the disease itself may be spread to human beings by these animals through the medium of their milk. The results of numerous tests indicated that some of the goats in every herd examined were suffering from Malta fever, and, further, that the particular micro-organism is exuded in the milk in enormous numbers when the disease has been present long enough to bring about a change in the physical character of the fluid. This and similar important discoveries must mark a new departure in the future study of Malta fever.—*Daily Telegraph.*

THE PASTEUR INSTITUTE.—The *Annales de l'Institut Pasteur* state that the number of persons treated for hydrophobia in Paris during the year 1904 was 755, of whom three died, the rate of mortality being ·39 per cent. For the last ten years the rate of mortality has ranged from ·18 per cent. in 1902 to ·39 per cent. in 1397 and 1904. The department of the Seine (Paris) furnished the largest contingent of persons bitten (233), the departments which came next in order being the Finistère (50), the Corrèze (28), the Vendée (27), the Loire Inférieure (26), the Lot (25), the Cher and the Deux Sèvres (21).

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever.	
		Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaughtered *
GT. BRITAIN. Week ended Aug. 5		15	16	..	..	30	38	..	..	2	21	67
Corresponding week in	1904 ..	19	35	..	..	22	55	..	..	1	20	100
	1903 ..	11	18	..	..	37	59	..	..	1	35	131
	1902 ..	8	10	..	..	14	26	..	..	2	36	132
Total for 31 weeks, 1905		607	861	..	..	745	1287	..	..	650	536	2472
Corresponding period in	1904 ..	610	942	..	..	930	1668	..	..	1061	915	4338
	1903 ..	486	750	..	..	867	1424	..	..	1165	1014	4990
	1902 ..	434	766	1	120	684	1232	12	11	1109	1107	5062
Board of Agriculture and Fisheries, August 8, 1905.												
IRELAND. Week ended July 29		..	..	..	..	..	..	..	..	1	5	83
Corresponding Week in	1904 ..	..	..	..	..	1	1	..	..	1	6	178
	1903 ..	..	..	..	..	..	..	1	..	1	12	130
	1902 ..	..	..	..	..	..	..	..	..	1	2	35
Total for 30 weeks, 1905		2	2	..	..	12	33	..	..	225	30	846
Corresponding period in	1904 ..	2	2	..	..	8	24	..	..	368	108	2430
	1903 ..	2	3	..	..	1	2	2	..	395	96	1943
	1902 ..	..	..	..	..	6	25	..	..	436	104	2374

Epizootic Lymphangitis, Jan. 2 cases; Feb. 2; Mar. 10: May, 1; June, 7: Week ending July 1st, 1; 8th, 1: Total 24

Department of Agriculture and Technical Instruction for Ireland, (Castle Street), Dublin, Aug. 3, 1905.

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Kiwis and Keas.

An interesting addition has just been made to the curiosities of the Zoological Gardens. Eleven Kiwis and two Keas have been brought over by Mr. Henry C. Wilkie, F.R.C.V.S., who has been six years veterinarian to the new Zealand Government, and a Fellow of the Zoological Society for twenty years. The Kiwis are generally recognised as very difficult birds to bring across the ocean, and none have landed in England for several years, although several have been sent. During the passage through the tropics they were protected as much as possible from the heat with awnings, ice, etc., and not one was lost on the journey. This is the largest number of Kiwis which has ever been landed in the northern hemisphere. Four of the Kiwis are the property of Lord Ranfurly, the others have been presented to the Zoological Society.

Royal Commission on Horse Breeding.

We understand that the Royal Commission on Horse Breeding, in issuing their tenth report, say that, in comparison with previous exhibitions, the judges have reason to be satisfied with the general merit of the competing stallions at the show held in the present year. It was gratifying to the judges to find that the efforts of the Royal Commissioners to ensure that none but sound stallions should be exhibited has been so entirely successful. The judges particularly express their gratification that the Royal Commissioners have allowed the Turf careers of the competing stallions to be taken into account when awarding the premiums. By this means horses that from some natural defect of limb or temper, which effectually prevented their appearance on a race-course, have been in some instances passed over in favour of others which have been able to bear the test of training. The judges did not think it necessary that the horses competing should have actually won a race, but considered it much in their favour if they had been able to run respectably for a certain period. As stated in their last report, the Commissioners have considered the desirability of giving the judges an account of the racing careers of the horses exhibited, and it is gratifying, they say, to note that the judges have found these particulars useful in making their awards.

The Commissioners consider it a satisfactory sign that the percentage of horses rejected for unsoundness shows a great diminution compared with the early years of their work. When the first show was held at Islington in 1889, of 90 exhibits 17 were rejected as unsound; whilst in the present year out of 90 exhibits only five failed to pass the veterinary examination. From a total of 75 horses exhibited in the English classes only one horse was rejected.—*The Times.*

Cost of Mistaken Diagnosis.

At the meeting of the Metropolitan Asylums Board, Mr. A. Scovell presiding, it was announced that Park Hospital had had its assessment raised by the local authority from £7,350 to £10,757.

In presenting the annual report of the Board the Chairman of the Statistical Committee (Mr. W. R. Smith) stated that there had been 21,000 cases of scarlet fever and 538 cases of small-pox admitted to the hospitals during 1904. The scarlet fever and diphtheria death rates were slightly higher, and the death rate for typhoid fever was the only one which showed a decrease. In

reference to diphtheria, the mortality from this disease had decreased from 30 in 1893 to 10 last year. Nearly 2,000 cases of mistaken diagnosis had been admitted during the year. The average period of detention was a little over three weeks, and the expenditure represented, which ought never to have been incurred, was £12,000 for the year.

Pollution of Stream: Action against Maybole Corporation: Damages.

In Ayr Sheriff Court on July 20th, Sheriff Campbell Shairp issued an interlocutor in the action at the instance of Thomas Dunlop, farmer, Lyonstone, against the Town Council of Maybole, in which pursuer claimed the sum of £240 in name of damages.

In his condescendence pursuer stated he had a dairy of 33 cows, which he let to a farmer, The defenders are tenants under Mr. Wm. Baird of a loch on the lands of Lochlands, and by their lease they are bound to relieve Mr. Baird of all claims by tenants or proprietors through which the stream from the loch flows for injury caused to themselves or bestial by pollution or contamination of the waste supply caused by the defenders' operations. Pursuer alleged that the defenders caused to be put into the loch, along with tons of rubbish, almost every variety of decomposing vegetable and animal matter, which had had the effect of polluting the water of the stream. From May until the 16th October the pursuer's dairy cows, 33 in number, were grazing in three fields, which found their natural and only supply of water in the said stream. In consequence of the cows partaking of the polluted water, the pusuer had sustained very serious damage. In particular, the general health of the animals became affected, and the supply of milk from them was greatly diminished ; the actual shortage of milk supply from May to the end of November he put at £60. Further, as the result of drinking the polluted water seven dairy cows aborted between 1st September and 7th October, and three more became very ill in health after calving, and the loss under this head he put at £121. The remainder of the cows, 21 in number, on account of drinking the polluted water, were depreciated to the extent of £63—the total claim being thus £244.

In their answers defenders denied liability. They stated that the disposal of the rubbish in the loch is work that they undertake in discharge of a public duty. They stated that the loch has always, especially during the summer months, been a pool of stagnant water, and the small stream that flows from it was in summer more or less polluted. The loch was let to the defenders for the purposes of depositing town rubbish therein, so that the land might be reclaimed for agricultural purposes. If there was any increase in the pollution by the defenders operation it was so slight and innocuous that it could not be detected by the defenders or their servants, and was not of such a character as would be hurtful to animals drinking the water. Defenders alleged that the aborting of the cows was due to an outbreak of contagious abortion, and was not due to drinking by them of the polluted water, but to other causes.

Sheriff Shairp has found in favour of pursuer and awarded £200 damages and expenses. The following is his Lordship's interlocutor.

Ayr, July 20, 1905.

The Sheriff Substitute having heard parties' procurators, and considered the cause, finds in fact :—

(1) That the pursuer is the tenant of the dairy farm of Lyonstone, near Maybole, of which he has been in occupation since Martinmas, 1894.

(2) That from the middle of May, 1904, until the 18th day of October, 1904, the pursuer's herd of thirty-two valuable dairy cows were grazed on the three fields Nos. 574, 606, and 608 shewn on the Ordnance Survey plan, which fields are all in communication with each other.

(3) That while these cows occupied the foresaid fields their only water supply was from the burn at Stoneyfield bridge between the points A and B as shown on the aforesaid plan, and that this burn was fed with water from the Heart Loch.

(4) That during the period from the middle of May, 1904, till 18th October, 1904, while these cows were drinking the water from Stoneyfield burn that water was most seriously polluted, and that in consequence the whole herd of thirty-two cows belonging to the pursuer suffered severely in health and were injured in various degrees.

(5) That from early in 1901 till February, 1905, by the orders and on the responsibility of the defenders, the Heart Lock was used as a tip for the rubbish of the Burgh of Maybole, a town of about 6,000 inhabitants, and that during that period enormous quantities of town rubbish, including decomposing vegetable and animal matter, regularly deposited on the edge and in the waters of Heart Loch by the defenders' carters and servants, and that in consequence of such operations the waters of the Heart Loch were very seriously polluted, and, after leaving the Heart Loch, flowed down the Stoneyfield Burn to the point where the pursuer's cattle drank between the middle of May, 1904, and the 18th October, 1904, and there poisoned the pursuer's cattle.

(6) That for the past eighteen years a very small trickle of liquid sewage from the dairy farm of Lochlands has entered the Heart Loch, but that it was so minute in quantity as to have no appreciable effect on the waters of Stoneyfield Burn at the point where the pursuer's cattle drank, and that but for the operations of the defender's servants above referred to, the waters of the Stoneyfield Burn between the middle of May, 1904, and the 18th October, 1904, would have been quite fit for cattle to drink, and uninjurious to the pursuer's cows.

(7*a*) That owing to the pursuer's foresaid cows having been poisoned, as above described, their general health was affected, and the supply of milk was materially diminished during the period from May till November, 1904, and that in consequence the pursuer suffered loss to the extent of £30.

(7*b*) That, as a result of drinking said polluted water, seven of pursuer's cows aborted between 1st September and 7th October, 1904, and one aborted on or about 19th November, 1904 ; and further, as a result of drinking said polluted water, three other of the pursuer's cows became seriously ill after calving at their full time, and in the case of two of these three the calves were born dead, while in the case of the third the calf born was so ill that it had to be destroyed immediately. That the market value of each of the eleven cows here referred to prior to their aborting or calving was on an average £15, and that after so aborting or calving the average value of each cow was not more than about £4. Accordingly assesses the damage which the pursuer has suffered through depreciation in value of these eleven cows at the sum of £120.

(7*c*) That in consequence of drinking said polluted water the remainder of pursuer's said cows, twenty-one in number, became lean and out of condition, and their market value was depreciated to the extent of £50 in all.

Finds in law :—

That in the above circumstances the defenders are liable to the pursuer for the damage sustained by the pursuer's cows as above mentioned as a result of the defenders' operations at the Heart Lock. Accordingly ordains the defenders to pay the pursuer the sum of £200 sterling ; finds the defenders liable to the pursuer

in expenses ; allows an account thereof to be lodged, and remits the same when lodged to the auditor to tax and report, and decerns.

(Signed) J. C. SHAIRP.

Note.—Proof in the present case was taken at considerable length, extending over two full days, and the greater part of the third day was devoted to the hearing on the evidence, so that the Court has had the advantage of having the facts of the case very fully set forth. While there has been a great body of evidence adduced, the real issue between the parties can be stated very shortly in the three following questions :—

1. Did the pursuer's cattle drink polluted water ?
2. Did they suffer from so drinking ? and
3. Are the defenders responsible for the pollution of the water in question ?

To all these questions I am prepared to return an affirmative answer.

The substantial defence stated for the defenders was this, that the pursuer's cattle suffered from an outbreak of contagious abortion, a disease well known to the veterinary profession, and were not poisoned by the water of the Stoneyfield burn. Here, after having heard the whole evidence, I am of opinion that it shows that there was no outbreak of contagious abortion, but, on the contrary, that the pursuer's cows were poisoned.

Another point which the defenders endeavoured to make was that the Heart Loch was so poisoned by sewage from Locklands farm that the Maybole refuse had no appreciable effect upon the purity of the water. Here, again, I am against the defenders. Apparently it is true that there is a small trickle of sewage from Lochlands farm, which has entered the Heart Loch for at any rate eighteen years past, but its quantity is minute and would, in my opinion, have no appreciable effect in rendering the Stoneyfield burn unfit for cattle to drink ; and, curiously, this view was confirmed by one of the defenders' witnesses—Mr. Hugh Mathie—who tells us that the water of the Stoneyfield burn was analysed ten years ago and found to be equal to Loch Katrine water.

The real facts of the case appear to be that from 1901 onwards the defenders have carted the Maybole rubbish to the shores of the Heart Loch, and as this became firmed up, the refuse was emptied straight into the water of the loch itself. In this view it is not difficult to see that the pollution of the water of the loch in 1904 was very much more serious than in 1901. The evidence of the plumber, Mr. Cowan, shows clearly that the pollution to the water has been increasing rapidly if one compares the year 1904 with 1903. This witness's evidence appears to me to be particularly important, and I refer to it at page thirty-nine of the proof : for the condition of the water wheels, to which this witness refers, affords an accurate gauge of the rapid increase in the pollution of Stoneyfield burn during the year 1904.

I do not propose to review the expert veterinary evidence in detail. The evidence which impressed me most was that of Prof. Williams and Prof. McCall, two of the pursuer's witnesses In my opinion the true result of the expert evidence, taken as a whole, shows that the pursuer's cows did not suffer from contagious abortion, but were poisoned by contaminated water. In this connection I believe the evidence of the bower Struthers, his wife, and the pursuer that the cows were showing signs of illness before any abortions took place.

The defender's agent naturally commented on the fact that the pursuer had not called in a veterinary surgeon in the summer months when the cattle were alleged to have been falling off in condition. It is, perhaps, unfortunate that he did not do so, but in the same circumstances different men act in different ways, and the fact that no veterinary surgeon was called does not prevent me from believing the evidence of the pursuer, Struthers, and Mrs. Struthers that the cattle were ill and out of condition before the abortions took place. Nor am I prepared to alter that opinion on account of the evidence adduced as to the conversation between Mr. Weir, V.S., and the witness Struthers.

On 19th October, 1904, the pursuer removed his cows to other pasture, and they ceased to drink from Stoneyfield burn. After their removal there appears to have been no further illness amongst the pursuer's cattle, with the exception of one cow which aborted on 14th November, 1904, but the fœtus here was very much decayed, and it is reasonable to suppose that the fœtus had died before this cow ceased to drink at Stoneyfield burn. I consider this sudden cessation of illness among the pursuer's cattle when removed from the polluted water important, as showing that this water was the cause of their former ill-health.

As to the amount of damage which the pursuer has sustained, it is not easy to put a figure on the loss occasioned by the diminution in milk supply during the summer of 1904. The lists No. 17 and 28 of process do not afford an adequate basis of comparison between the milk supply from the Lyonstone cows in 1903 as compared with 1904. for No. 28 of process shows that the bower paid his rent every month in full and does not show the varying returns of milk yield by the cows each month. On the whole, however, I am prepared to assess the pursuer's damage under this head at £30.

The damage sustained by the pursuer's cows themselves, as set forth in articles 12 and 13 of his condescendence, can, I think, be more accurately appraised, and I have assessed the damage referred to in article 12 of pursuer's condescendence at £120 and the damage referred to in article 13 at £50.

On the whole case I am of opinion that the defenders have caused the pursuer very substantial damage, and that I have not exaggerated it in assessing it at the figure of £200.

(Intd.) J. C. S.

Agents—For pursuer—Mr. P. A. Thomson, solicitor, Ayr ; for defenders—Mr. David Fergusson, solicitor, Ayr.

Action against the Birmingham Corporation.

In the Crown Court of the Birmingham Assizes, before Mr. Justice Wills and a jury, the hearing was resumed of the action brought by Madeline Bickley, wife of Frederick William Bickley, of Hobmoor Road, Small Heath, to recover damages from the Birmingham Corporation for injuries. On the evening of September 30th, Mrs. Bickley was pushing a perambulator along Green Lane, Small Heath, when it was overturned in a depression in the roadway. The plaintiff fell on to the perambulator, and she alleged that she injured her right breast so severely that an abscess formed, and two operations were necessary. The spot where the accident occurred was opposite Omega Villas, where the road had been repaired by the Corporation. The plaintiff's case was that the roadway at this point had subsided, and had been left in such a condition as to render it unsafe to passers-by. Mr. Vachell, K.C., who, with Mr. Graham Millward, appeared for the plaintiff, contended that the Corporation was liable for damages as owners of the highways and pathways of the city.

Mr. Hugo Young, K.C., and Mr. Cave appeared for the Corporation, and when the case was resumed this morning Mr. Cave addressed the jury. He said that his clients would be able to show that the work in every particular was thoroughly and efficiently done. This statement was borne out by the contractor's manager, who said that though they visited the place up to the date of the accident they saw no depression of any sort at that point.

Dr. Lucas, who has been for twelve years on the staff of the General Hospital, said that abscesses were very common in the breast after confinements. In his opinion, to attribute the debility from which the plaintiff was now suffering to abscess was absurd.

On the previous day Dr. Frew said that such abscesses were not unusual after child birth, and attributed the abscess in this case and the consequent suffering to the plaintiff's accident.

His Lordship, in summing up, commented on the medical evidence, and said he thought it was to be regretted that a gentleman occupying the position of Dr. Lucas should have spoken in the way he did of the opinion of another medical gentleman. Members of the legal profession did not describe one another's opinions as being absurd, and his Lordship thought it was a matter for regret that evidence should be given by eminent professional men in that spirit.

The jury retired, and on their return gave a verdict for the plaintiff for £150.

PARLIAMENTARY.

In the House of Commons on Monday, August 7th,

EPIZOOTIC LYMPHANGITIS.

Mr. CULLINAN (Tipperary, S.) asked the President of the Board of Agriculture if he would state the several places in which South African horse disease had been, and was at present, in Great Britain; the precautions taken to prevent the disease spreading, including the number of military and private establishments quarantined and shows and race meetings stopped because of its prevalence.

Mr. FELLOWES (Hunts, Ramsey). — Seventeen outbreaks of epizootic lymphangitis have been reported from the following places, namely :—London (3), Hampshire (3), Hertfordshire (2). Essex (2). Kent, Nottingham, Stafford, Suffolk, Surrey, Wilts, and Lanark one each. All animals returned as affected have been disposed of, either by slaughter or otherwise, and no case of the disease is now known to exist amongst civilian horses. The precautions to be taken to prevent the spread of the disease are set out in the Epizootic Lymphangitis Order of 1904, a copy of which I shall be glad to send to the hon. member. It has not been necessary for us to interfere in any way with the holding of horse shows or race meetings. Any question as to the existence of this disease in military establishments should be addressed to my right hon. friend the Secretary of State for War.

OBITUARY.

ROBERT M'ADAM, M.R.C.V.S., Castle Douglas, Kirkcudbright.
Graduated, Glas : April, 1873.

On Friday, 4th inst., Mr. M'Adam, who was one of the best-known veterinary surgeons in the South of Scotland, died at his house in Castle-Douglas, after a long illness. Mr. M'Adam was the eldest son of the late Mr. Alexander M'Adam, a farrier of repute in Castle Douglas district. After a distinguished career as a student at the Glasgow Veterinary College he took his degree in 1873, and since then, with the exception of about a year spent in Australia for the benefit of his health, he has been engaged in an extensive practice. Mr. M'Adam was one of the County Council inspectors under the Diseases of Animals Acts, and was frequently engaged by the Board of Agriculture to report on outbreaks of anthrax, swine fever, etc. In his younger days he was a keen hand with rod and gun, and apart from his profession had a wide circle of friends in Galloway. Mr. M'Adam, who was unmarried, was fifty-five years of age.

CORRESPONDENCE.

KIWIS AND KEAS.

Sir,

I enclose a paragraph (see p. 124) from *The Daily Graphic* which may be of interest to the readers of *The Veterinary Record*.

The Kiwis are specimens of the *Apteryx Mantelli*, from the North Island of New Zealand.

These birds from their great zoological interest, and their great rarity in the Northern hemisphere, (I think those I brought are the only living Kiwis north of the line) have a very high pecuniary value, two having been sold several years ago in London for £150 each.

It is now several years since any have been landed alive. I had to give a good deal of attention to the habits of these birds before bringing them, and I placed them under conditions which all simulated their natural surroundings, feeding, water etc., as is possible in confinement.

I conveyed them by the Shaw Savill line steamer "Kumara," the Company and the Master, Capt. Scotland, giving me every possible facility for a successful issue of the undertaking.

The two Keas I brought are specimens of the New Zealand mountain parrot (Nestor Notabilis). It has acquired a bad reputation by attacking sheep. This it only does in the winter time when food is scarce, and it is rather a peculiar habit for a parrot to acquire. They tear a piece, usually the size of the palm of the hand, out of the back, over the loins usually.

The word Kea is of Maori origin, and represents the peculiar natural cry of the bird. The term Kiwi is derived in the same way.

Four of the eleven Kiwis I brought are the property of Lord Ranfurly, late Governor of New Zealand, and I understand from him that he contemplates leaving two of these at the Zoological Gardens, and placing the other two, a male and female, on a small island in the hope that they may breed.

I may mention that the egg of the Kiwi is of enormous size (about 5 inches in length) compared to the size of the bird, and that the beak of the young bird protrudes from the egg usually eight days before the bird is liberated from the shell.

I beg to enclose two tickets for the Gardens in case you should care to see these birds.—Yours truly,

HENRY C. WILKIE, F.Z.S.

CASE OF CONGENITAL CATARACT.

Sir,

I have a case of congenital cataract in a three months old colt for which I hope to be afforded the opportunity to perform an operation. The cataract in one eye is diffused sufficiently as to render vision impossible, the other eye appears to be going in the same way. The mare has been breeding yearly to good sires, and the three former foals have shown nothing wrong in any way.

I should feel indebted to any member of the profession who may have met with a similar case, to what treatment they have subjected the case, and what the result has been.

There are many practitioners residing in breeding districts, where more foals are bred than in this neighbourhood, who may have come across similar cases and who, perhaps, may be able to give some valuable advice as to the treatment. The difficulty to my mind, is in the supply of proper glasses after an operation to render vision perfect.

I shall be pleased to publish the results of any treatment adopted, and hope in the meantime that I may, through the pages of your valuable paper, read of the experience of any member of the profession who has met with such a case.—Yours faithfully,

H. JARVIS, M.R.C.V.S.

85, London Road, St. Leonards-on-Sea.
August 5th.

"NEVER MIND THE REGISTER."

Sir,

I enclose, with the hope of your being able to insert it in the columns of your next edition, a cutting from this evening's issue of *The Peterborough Evening News*. The point to which I specially wish to call the attention of your readers is the apparent indifference of the Chairman as to whether anyone calling himself a veterinary surgeon, and giving professional evidence in a Court of Law, is qualified or not. Hoping this will not only stir up the Registration Committee, but lead to the "great unpaid" learning exactly what is lawful, and what is unlawful.—I am, sir, yours etc.,

NOT A VET.

[The point to which our correspondent desires to draw attention is in the following extract from the report of a case of "cruelty."]

"Inspector Yates said he examined the horse, which was very lame on both fore legs and suffering from ringbones and a skin disease, which covered the body in patches.

Fredk. Wattam, M.R.C.V.S., said he examined the horse and found it suffering from incurable lameness and long deposits, and ringbones on the legs. There was also a chronic skin disease. The horse was only fit to be slaughtered.

The Chairman: Was it cruel to make him pull 500 bricks?—Witness: It would be cruel to make him draw an empty cart.

Mr. Burrow: Are you on the Register?—Witness: I don't know and I don't care?

Answer me please.—Well, I'll say "No."

The Chairman: We are tired of that question.

Inspector Yates: Now what about this Register?

The Chairman: *Never mind about the Register.*"

PILL CARRIERS.

Sir,

Mr. W. S. Flock in his letter published in the current issue of *The Record* has been kind enough to compare the merits of my pill carrier with the one recently invented by himself, it being his evident intention to make his instrument come out on top.

It is natural that each man should father his own child, and Mr. Flook must forgive me if I say I am still convinced that that the "Carrier" I placed before the profession a few years ago is simpler, handier to use, less likely to fail in action, and considerably cheaper than the complicated instruments (for you must have two) since "patented" by him.

What a nuisance it must be when the messenger has forgotten to leave word as to the size of the dog that is to be the recipient of the pill, and you, after many pros and cons, eventually have to cram both instruments into your pocket and hurry off.

I tried the plunger form of driving the pill into the animal's œsophagus and had to abandon it as the machinery was always getting out of order through a wicked animal putting his teeth into it, and I must own to not being mechanic enough to straighten an indent in a tube with a hammer.

Really, Mr. Flook, I think you must have forgotten the existence of a Registration Committee when you solicited the *client of mine* to try your own, he having most properly said "that he preferred 'Fletcher's.'" May they deal lightly with you.

There is room in the profession for both our "Pill Carriers" and also for the gentleman who will prefer to use his finger. So far, I have always refrained from "puffing" my own invention, believing that the members of the profession are sufficiently "alive" when once having had their notice drawn to an article to grasp and use that which is good.

Sheffield.

TOM C. FLETCHER.

PROFESSIONAL CONDUCT.

Sir,

Much has appeared of late in your paper urging the recognition of the veterinarian as a professional man. "Raising the status of the profession" etc. And now I venture to raise the question, What is the status of the M.R.C.V.S. who has the double misfortune of being a young man and an assistant? This is suggested by the following experience. Some weeks ago, in response to an advertisement of mine in your pages, I received a communication from a M.R.C.V,S.*L.*, asking for copies of testimonials, etc. I forwarded testimonials, and the following day received a telegram, "Come at once." When I arrived I found that I was to share the same bedroom as the manservant and dine with the servants in the kitchen. The following rules, which are a copy of the original (exact even to the spelling) were posted on the wall of the pharmacy, may prove interesting.

ASSISSTANT'S DUTIES.

I. Must be down at 7 in morning.
II. Feed dogs and clean out kennels.
III. Clean and dust surgery, scales and water taps.
IV. Attend and visit cases as directed after breakfast.
V. In spare time dispense medicine and attend to clients.
VI. Evening out—Friday.

Signed ——

I am of opinion that rules such as the above and the treatment I received are not such as an M.R.C.V.S. should be inflicted with. As I think, and hope in the interests of the profession, this is an isolated case, I feel it is my duty to give it publicity and thus warn young men, full of hope and proud of the diploma they have won, to be on their guard, and not allow themselves to be imposed upon and suffer duties to be forced upon them that a first class groom or coachman would refuse, and I fancy the manservant had refused, to do. Therefore, the greenhorn, fresh from College, (Oh, he knows no better; he is *only* the assistant) gets imposed upon, and it may be, ere this reaches you, some other unsuspecting assistant has followed in my footsteps.

And now, sir, I would ask, How am I to "Keep up the status of the profession" etc. when an older man, for the sake of saving a few shillings per week, asks an assistant holding a qualification at least equal to his own (although *it is true he lacks the L.*) to do kennel man for him.

I would appeal to all M.R.C.V.S. to remember that the duties of the manservant, groom or valet form no part of a profession which has been, and still should be, the calling of a gentleman.—Faithfully yours,

TRUTH.

THE FUTURE OF THE VETERINARY PROFESSION.

Sir,

A good many members of the profession are greatly perturbed about the future, and not without reason. The present agitation just now is in favour of representation in Parliament. I do not think that one solitary member would be able to sufficiently look after the interests of the profession, or would make himself sufficiently heard in the House. At the present time the greatest evil the practitioner has to put up with is competition with the unqualified man, the quack, the patent horse medicine vendor, and the chemist—the latter in particular. The chemist (thanks to the man who wrote "Veterinary Counter Practice") is now able to prescribe with fair success in a good many cases; this has repeatedly come to my notice lately.

What we require is either a new Charter or a Bill introduced which will make it illegal for any one person to *act in the capacity of a veterinary surgeon*, unless that person is a M.R.C.V.S. Country chemists are great offenders in this respect. Some coachmen are also addicted to this, for the sake of a very small remuneration. The present Act, as it stands, does not touch these persons, and the sooner a new Charter is adopted the better it will be for all concerned, including

A WEST COUNTRY PRACTITIONER.

COMMUNICATIONS AND PAPERS RECEIVED.—Messrs. H. Jarvis, T. C. Fletcher, H. A. MacCormack, "A West-country Practitioner," "Truth."

The Mid Sussex Times.